

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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| Applicant: | HAAS, Rainer |) Examiner: |
| PCT Application No.: | PCT/EP2005/009038 |) unknown |
| PCT Filing Date: | August 22, 2005 |) Art Unit: |
| For: | DEVICE AND METHOD FOR THE |) unknown |
| | PRODUCTION OF A POWDER-AIR |) |
| | MIXTURE |) |

Atty. Docket No.: 4651 0109US

MAIL STOP PCT

Commissioner for Patents

Alexandria, VA 22313-1450

U.S.A.

INFORMATION DISCLOSURE STATEMENT

The Examiner is referred to the List of Prior Art (Form PTO-1449A).

DE 199 37 557 A1, EP 0 636 405 A2, "Untersuchung zum Einfluß ---", and Experimentelle und theoretische Untersuchungen ---" are all described in the introductory portion of the specification.

DE 4040227 A1 discloses a system in which component 28 represents a jet pump into which compressed air is blown via the lines 20 and 30. The compressed air is powder-free. Reference numeral 32 designates a suction chamber via which a powder-air mixture is suctioned. Moreover, ambient air is suctioned into the suction chamber via a line 46 and valve 48. The

mixture generated in this manner is supplied to a nozzle 24 via line 26, and is discharged. In contrast thereto, the compressed air flow in accordance with the invention is not powder-free, but contains powder. The powder-containing compressed air flow is blown into the suction chamber and suctions ambient air. This suctioned ambient air thereby forms a jacket or covering jet, disposed about the pressurized driving core containing the powder-air mixture.

In DE 10111891 A1, GB 2118865 A, EP 0913203 A1, EP 0686430 A2, DE 4446798 A1, EP 0763385 A1, EP 0823286 A2 and EP 1104334 B1, atmospheric ambient air is not suctioned, rather compressed air is supplied to the powder-air mixture.

US 4,807,814 discloses an ejector into which compressed air is axially blown in the form of a driving jet and into which powder is supplied from the side via the nozzle 18. A further gas is added via openings 34 which are designed as bores, the gas being axially oriented at 46 and travelling at the speed of sound (column 6, lines 1 and 2). In contrast thereto, the pressurized powder-air mixture in accordance with the invention is directed in an axial direction (as in prior art), but pressureless ambient air is suctioned from the outside and moves in a radial direction, such that the pressurized powder-air flow and the ambient air meet at substantially mutually perpendicular directions. Moreover, the ambient air has an extremely low speed compared to the speed of sound.

According to EP 0465043 A2, a pressurized fluid is blown-in via a nozzle 11 and liquid is added via an opening 22. The nozzle 20 causes the air to

be carried along. This device serves e.g. for ventilating ponds or aquariums. In contrast to the instant invention, the fluid added via the nozzle 11, the water flowing-in via the opening 22, and the air added via the nozzle 20 are mixed in the mixing chamber 16. The reference does not disclose a pressurized powder-air mixture.

XP 07682 discloses a mixer to which compressed air is supplied, part of which flows via a powder chamber carrying along powder. This powder is removed from the powder chamber and mixed with the residual compressed air, and the powder-air mixture generated in this manner is blown-out via the nozzle 5.

None of the documents mentioned above discloses the inventive device with the features of ambient air being supplied, without pressure, to a pressurized powder-air mixture having an axial flow direction, with this air being supplied in a radial direction, wherein the supplied air is fed into the powder-air mixture over the entire periphery, i.e. not via individual bores or the like.

DE 198 23 511 C2 discloses a device for producing an aerosol having a pressure section terminating in a suction section in an ejector-like manner, with the suction section being opened to the surroundings.

The applicant assumes that, in accordance with MPEP 1893.03(g), copies of the PCT search document and cited prior art have been forwarded to the USPTO by the European Patent Office. If this is not the case, applicant requests notification of same.

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Date February 17, 2006

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Enclosures:

PTO-Form 1449 (3 pages)

Non-PCT References which are not US Patents or Publications

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|---|---|----|---|--|--|
| Substitute for form 1449A/PTO | | | | Complete if Known Application Number PCT/EP2005/009038 Filing Date PCT August 22, 2005 First Named Inventor HAAS, Rainer Group Art Unit Examiner Name | |
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary) | | | | Attorney Docket Number 4651 0109US | |
| Sheet | 1 | of | 3 | | |

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| FOREIGN PATENT DOCUMENTS | | | | | | |
|-------------------------------|--|------------|--|---|--|---|
| Examiner Cite Initials No. | Foreign Patent Document Office Number Kind Code | | | Name of Patentee or Applicant of Cited Document | Date of Publication of Cited Document MM-DD-YYYY | Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear |
| /K.L./ | DE | 40 40 227 | | Platsch | 06.17.1992 | |
| /K.L./ | EP | 0 465 043 | | Inax | 01.08.1992 | |
| /K.L./ | EP | 1 104 334 | | ITW Gema | 06.06.2001 | |
| /K.L./ | EP | 0 823 286 | | Elpatronic | 02.11.1998 | |
| /K.L./ | DE | 44 46 798 | | Gema | 06.27.1996 | |
| /K.L./ | EP | 0 686 430 | | Gema | 12.13.1995 | |
| /K.L./ | EP | 0 913 203 | | ITW Gema | 05.06.1999 | |
| /K.L./ | GB | 2 118 865 | | Electropaint | 11.09.1983 | |
| /K.L./ | DE | 101 11 891 | | ITW Gema | 11.28.2002 | |
| /K.L./ | EP | 0 763 385 | | Elpatronic | 03.19.1997 | |

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| Examiner Signature | /Kevin Lee/ | Date Considered | 12/22/2008 |
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| Substitute for form 1449A/PTO | | | | Complete if Known | |
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary) | | | | Application Number | PCT/EP2005/009038 |
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| | | | | First Named Inventor | HAAS, Rainer |
| | | | | Group Art Unit | |
| | | | | Examiner Name | |
| Sheet | 2 | of | 3 | Attorney Docket Number | 4651 0109US |

| U.S. PATENT DOCUMENTS | | | | | | |
|-----------------------|-------------|--|--|---|--|---|
| Examiner Initials | Cite No. | U.S. Patent Document Number Kind Code | | Name of Patentee or Applicant of Cited Document | Date of Publication of Cited Document MM-DD-YYYY | Pages, Columns, Lines Where Relevant Passage or Relevant Figure Appear |
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| FOREIGN PATENT DOCUMENTS | | | | | | |
|--------------------------|-------------|--|------------|---|--|---|
| Examiner Initials | Cite No. | Foreign Patent Document Office Number Kind Code | | Name of Patentee or Applicant of Cited Document | Date of Publication of Cited Document MM-DD-YYYY | Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear |
| /K.L./ | | DE | 199 37 557 | Haas | 03.09.2000 | |
| /K.L./ | | DE | 198 23 511 | Lingemann | 01.24.2002 | |
| /K.L./ | | EP | 0 636 405 | Meili | 02.01.1995 | |
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| Examiner Signature | /Kevin Lee/ | Date Considered | 12/22/2008 |
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| Substitute for form 1449B/PTO | | | | Complete if Known | |
| INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary) | | | | Application Number | PCT/EP2005/009038 |
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| | | | | First Named Inventor | HAAS, Rainer |
| | | | | Group Art Unit | |
| | | | | Examiner Name | /K.L./ |
| Sheet | 3 | of | 3 | Attorney Docket Number | P4651 0109US |

| OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS | | | |
|---|-------------|---|---|
| Examiner Initials | Cite No. | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s). publisher, city and/or country where published | T |
| /K.L./ | | SCHIEWE, Thilo "Untersuchungen zum Einfluß der Gutaufgabevorrichtung auf die Stroemungsmechanik in Fallrohrreaktoren". Der Technischen Fakultät der Universität Erlangen-Nürnberg zur Erlangung des Grades Doktor-Ingenieur, Erlangen, 1997 | |
| /K.L./ | | SCHLAG, Hans-Peter "Experimentelle und theoretische Untersuchungen zur Berechnung der Kennlinien von gasbetriebenen Einphaseninjektoren und Gutaufgabeninjektoren". Fortschr.-Ber. VDI Reihe 3 Nr. 313. Duesseldorf: VDI-Verlag 1993. | |
| | | "FÜERN ODER DESTAEUBEN VERSTAUBT ODER ARTUELL?" Deutscher Drucker, Ostfildern (Ruit), DE Bd. 25, Nr. 7, 23. February 1989 (1989-02-23), Pages W28-W30 | |
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